

Student: _____
Date: _____
Time: _____

Instructor: Natasa Paunovska
Course: Precalculus (Demana, Waits,
Foley, Kennedy)
Book: Demana: Precalculus: Graphical,
Numerical, Algebraic, 8e

Assignment: Chapter P Test Review

1. Find which value(s) of x are solution(s) of the equation.

$$3x^2 + 5x = 2$$

(a) $x = -2$ (b) $x = -\frac{1}{3}$ (c) $x = \frac{1}{3}$

Select all values of x that are solutions of the equation.

A. $x = -2$

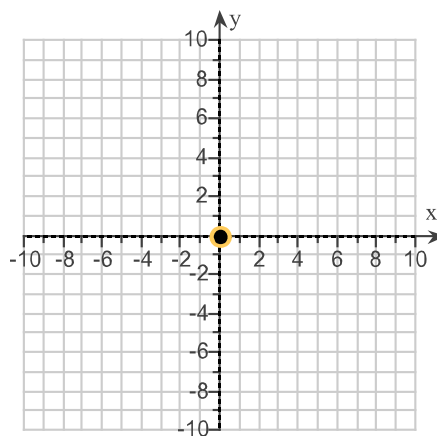
B. $x = -\frac{1}{3}$

C. $x = \frac{1}{3}$

2. Locate the point $(1, -5)$ on a rectangular coordinate system. Identify the quadrant in which the point lies.

Plot the point $(1, -5)$.

The point $(1, -5)$ lies in quadrant .
(Type I, II, III, or IV.)



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3. Determine whether the given numbers are solutions of the inequality.

$$x - 1 \geq 8; -2, 0, 5, 18$$

Is -2 a solution?

- No
 Yes

Is 0 a solution?

- Yes
 No

Is 5 a solution?

- No
 Yes

Is 18 a solution?

- No
 Yes

4. Solve the following equation symbolically and graphically.

$$x^2 + 9x + 20 = 0$$

$$x = \square$$

(Use a comma to separate answers as needed.)

5. Simplify. Assume that the variables in the denominators are nonzero.

$$\frac{m^9 n^7}{m^5 n^4}$$

$$\frac{m^9 n^7}{m^5 n^4} = \square$$

(Simplify your answer. Type exponential notation with positive exponents.)

6. Find the slope of the line containing the pair of points $(12, -2)$ and $(8, 12)$.

The slope of the line is \square . (Type an integer or simplified fraction.)

7. Solve.

$$9x^2 = 64$$

$$x = \square$$

(Simplify your answer. Use a comma to separate answers as needed.)

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8. Factor. Check by multiplying.

$$px^8 + cx^8$$

The factorization is .

9. Find the value of y so that the line through the pair of points has the given slope.

The line through the points $(5, 2)$ and $(2, y)$ with slope 1.

$$y = \text{}$$

10. Find the distance between the two points.

$(4, -2)$ and $(-76, 16)$

The distance is .

(Type an exact answer, using radicals as needed.)

11. Find the midpoint of the segment with the given endpoints.

$(2, -1)$ and $(-3, 7)$

The midpoint is .

(Type an ordered pair.)

12. Solve for x by using the quadratic formula.

$$x^2 + 6x + 4 = 0$$

The solutions are $x = \text{}$.

(Simplify your answer. Type an exact answer, using radicals as needed. Use a comma to separate answers as needed.)

13. Solve by completing the square.

$$x^2 + 3x = 28$$

The solutions are . (Use a comma to separate answers as needed.)

14. Write in interval notation.

$$x < 7$$

In interval notation, $x < 7$ is .

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15. Solve the equation.

$$3x - 16 = 8$$

$$x = \square$$

(Simplify your answer.)

16. Choose the inequality whose solution set is $(-\infty, 0]$.

A. $x \leq 0$

B. $x > 0$

C. $x \geq 0$

D. $x < 0$

17. Find a slope-intercept form equation for the line containing the given point and having the given slope.

$$(-1, 8), m = -5$$

The equation is $y = \square$.

18. Express the set of real numbers graphed on the number line with an inequality.



Choose the inequality that describes the graph.

A. $x \leq -3$

B. $x > -3$

C. $x \geq -3$

D. $x < -3$

19. Write the general form of the equation of the line through this pair of points.

$$(-5, 2) \text{ and } (-7, 7)$$

The equation is $\square = 0$. (Simplify your answer.)

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20. Solve the equation graphically by finding intersections.

$$|x - 5| = 17$$

$$x = \square$$

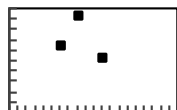
(Simplify your answer. Use a comma to separate answers as needed.)

21. For each variable in the table, produce the scatterplot.

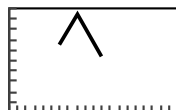
x(year)	1986	1987	1988	1989	1990	1991
y(sales)	3252	3391	3543	3431	2643	3134

Use the viewing rectangle $[1980, 2000, 1]$ by $[2600, 3600, 100]$. Choose the correct scatterplot.

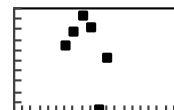
A.



B.



C.



22. Solve. Then graph.

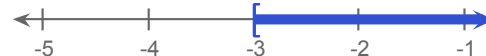
$$a - 9 \leq -12$$

The solution is $\{a \mid a \leq \square\}$.

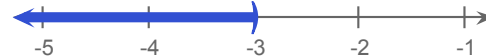
(Simplify your answer. Type an integer or a decimal.)

Choose the graph of the solution.

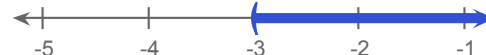
A.



B.



C.



D.



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23. Find the value of the expression.

$$5 - |-4|$$

The value is .

24. Solve the equation.

$$-\frac{3}{5}x = \frac{12}{10}$$

$x =$ (Type an integer or a simplified fraction.)

25. An investor purchased a house 8 years ago for \$44,000. This year it was appraised at \$70,500.

(a) A linear equation $V = mt + b$, $0 \leq t \leq 15$, represents the value V of the house for 15 years after it was purchased. Determine m and b .

$$m =$$

$$b =$$

(Type an integer or a decimal.)

(b) Graph the equation and trace to estimate in how many years after purchase this house will be worth \$72,900.

years (Type an integer or a decimal rounded to one decimal place as needed.)

(c) Write and solve an equation algebraically to determine how many years after purchase this house will be worth \$76,000.

The equation is $(\text{input})t + (\text{input}) = 76,000$.

(Type an integer or a decimal rounded to two decimal place as needed.)

The solution to the above equation is $t =$.

(Type an integer or a decimal rounded to two decimal place as needed.)

(d) Determine how many years after purchase this house will be worth \$90,375.

years (Type an integer or a decimal rounded to two decimal place as needed.)

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1. A, C

2. (1, -5)
IV

3. No
No
No
Yes

4. -5, -4

5. $m^4 \cdot n^3$

6. $-\frac{7}{2}$

7. $\frac{8}{3}, -\frac{8}{3}$

8. $x^8(p + c)$

9. -1

10. 82

11. (-0.5, 3)

12. $-3 + \sqrt{5}, -3 - \sqrt{5}$

13. -7, 4

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14. $(-\infty, 7)$

15. 8

16. A

17. $-5x + 3$

18. B

19. $5x + 2y + 21$

20. $-12, 22$

21. C

22. -3
D

23. 1

24. -2

25. 3312.50
44,000.00
8.7
3312.50
44,000.00
9.66
14